

The Design Characteristics of Arabic Calligraphy and The Extent of its Influence on Islamic Interior Design

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Abstract

Objectives: This study aims to highlight the artistic value of Arabic calligraphy as an influential decorative element in Islamic interior design from the inception of Islamic architecture until the present time. It is characterized by a set of design characteristics that make it have an appearance that, according to the researcher's vision, goes beyond the aesthetic and decorative aspect to the formative aspect of interior design and Islamic architecture. Hence, the study begins by defining the research problem, which revolves around studying the great similarity in formation between the letters, words, and sentences of Arabic calligraphy and the elements of interior design and Islamic architecture. Therefore, the purpose of this research is to prove the hypothesis of the influence of Islamic arts on each other by showing the complementary relationship between Arabic calligraphy and Islamic architecture, which led to improving the aesthetic and spiritual character of Islamic interior design historically.

Methods: The research follows the qualitative descriptive analytical method. Eight design characteristics of Arabic calligraphy were reviewed through this study, with the use of some Arabic calligraphy paintings to illustrate these design characteristics, so that they were linked one after the other to various architectural models from the history of Islamic architecture and interior design to demonstrate their formal impact on the design of Islamic architecture, especially the interior design elements of mosques.

Results: The results emphasized the complementary relationship between Arabic calligraphy and Islamic interior design and the influential role played by Arabic calligraphy and its rich and diverse formations in shaping the form of many design elements in Islamic architecture and interior design.

Conclusion: The study sees that the relationship between Arabic calligraphy and Islamic architecture will develop in the future such that lines and shapes will converge and that the designs and works of calligraphers will be a major source of inspiration for architects who design mosques and Islamic interior design. This has been proven through some contemporary examples of mosque architecture.

Keywords: Arabic calligraphy, design characteristics, Islamic interior design, Islamic architecture, architectural decoration, Arabic calligraphy decoration.

الخصائص التصميمية للخط العربي ومدى تأثيرها في التصميم الداخلي الإسلامي

ناصر ثابت المغربي، قسم التصميم الداخلي، كلية العمارة والتصميم، جامعة البترا، الأردن
الملخص

تهدف هذه الدراسة إلى إبراز القيمة الفنية للخط العربي كعنصر زخرفي مؤثر في التصميم الداخلي الإسلامي منذ نشأة العمارة الإسلامية وحتى الوقت الحاضر. فهو يتميز بمجموعة من الخصائص التصميمية التي تجعله يملك مظهراً، وفق رؤية الباحث، يتجاوز الجانب الجمالي والتزيين إلى الجانب التشكيلي في التصميم الداخلي والعمارة الإسلامية. ومن هنا بدأت الدراسة بتحديد مشكلة البحث التي تتمحور حول دراسة التشابه الكبير في التشكيل بين حروف وكلمات وجمل الخط العربي وبين عناصر التصميم الداخلي والعمارة الإسلامية. لذلك فإن الغرض من هذا البحث

هو إثبات فرضية تأثير الفنون الإسلامية في بعضها البعض من خلال إظهار العلاقة التكاملية بين الخط العربي والعمارة الإسلامية مما أدى إلى تحسين الطابع الجمالي والروحي للتصميم الداخلي الإسلامي تاريخياً.

المنهج: اتبع البحث المنهج الوصفي التحليلي النوعي، إذ تم استعراض ثمانية خصائص تصميمية للخط العربي، مع الاستعانة ببعض لوحات الخط العربي لتوضيح هذه الخصائص، بحيث تم ربطها الواحدة تلو الأخرى بنماذج معمارية متنوعة من تاريخ العمارة والتصميم الداخلي الإسلامي لبيان أثرها الشكلي في تصميم العمارة الإسلامية، وخاصة التصميم الداخلي للمساجد.

النتائج: أكدت النتائج على العلاقة التكاملية بين الخط العربي والتصميم الداخلي الإسلامي وعلى الدور المؤثر الذي لعبه الخط العربي وتشكيلاته الغنية والمتنوعة في صياغة شكل الكثير من العناصر التصميمية في العمارة والتصميم الداخلي الإسلامي.

الخلاصة: توقعت الدراسة أن تتطور العلاقة مستقبلاً بين الخط العربي والعمارة الإسلامية بحيث تتقارب الخطوط والأشكال وأن تكون تصاميم وأعمال الخطاطين مصدر إلهام رئيسي للمعماريين الذين يصممون المساجد والتصميم الداخلي الإسلامي، وقد ثبت ذلك من خلال بعض الأمثلة المعاصرة لعمارة المساجد.

الكلمات المفتاحية: الخط العربي، خصائص التصميم، التصميم الداخلي الإسلامي، العمارة الإسلامية، الزخرفة المعمارية، زخرفة الخط العربي.

1. Introduction

The adaptability, simplicity, and clarity of Arabic letterforms led to the development of Arabic calligraphy and the variety of its forms. Arabic calligraphy comes in a variety of forms, and each style is subject to specific guidelines that distinguish it from other scripts. The diversity and expansion of Arabic calligraphy also led calligraphers to compete with each other to develop new forms of letters and calligraphy styles. Which was reflected aesthetically in every place where Arabic calligraphy was found. (Zakariya, 1998)

There is no doubt that the most appreciated and admired type of art in the Muslim community is Arabic calligraphy, which is known as the beautiful art of writing in Arabic script. The Arabic language and its alphabet became sacred language because it was used to transmit and record the divine revelation of the Prophet Muhammad, may God bless him and grant him peace. Accordingly, Arabic calligraphy occupies a very important place in Islamic art as it is the means through which the word of God is communicated to people. (Widany, 2011)

Arabic calligraphy stands out among the arts of Islamic interior design as a unique element of beauty and adornment since the beginning of Islamic architecture in the Umayyad era in the middle of the seventh century AD until the present. Given the architectural importance of mosques in Islamic society, the priority was to employ Arabic calligraphy in the interior design of mosques for aesthetic reasons related to decorating the space and functional reasons related to conveying the message of Muhammad to the worshipers and reminding them of the verses and texts of the Prophet. Calligraphers made a great effort in this direction until Arabic calligraphy became an integral part. Of mosque architecture. (Petersen, 1996)

1.1 Problem of the Research:

Writing scripts and using different fonts to decorate and improve the interior design elements of mosques always requires the calligrapher to develop and master the construction of letters, words and sentences in appropriate proportions for a particular style of calligraphy. And this is not all. Calligraphers elevated Arabic calligraphy to the position of the most important decorative element in the arts of mosque architecture, due to a number of specific qualities that characterize Arabic calligraphy in general. (Alashari, 2022) Nevertheless, the researcher believes that the matter is not limited only to the decoration and improvement of the interior design elements of mosques, but rather

he sees that the design characteristics of Arabic calligraphy are similar in form and essence to many spatial formations and architectural elements in Islamic architecture. Therefore, the researcher will make every effort to prove this relationship by studying the design characteristics of Arabic calligraphy and comparing them with the structures and interior spaces in Islamic architecture.

The majority of researchers who study the history and arts of Islamic architecture have always been interested in the architectural form of the buildings as the main focus. As a result, they paid attention to the design of the domes, the size of the prayer halls, and the dimensions of the constructions, in addition to the architectural form that distinguishes each style from other Islamic architectural styles from a historical perspective. (Hillenbrand, 2003) However, the arts and decorations of Arabic calligraphy have influential qualities, both formally and fundamentally, in shaping the interior design of mosques throughout the ages, distinguishing them from other religious and worldly constructions, but they have not received sufficient attention in the authors' research. Therefore, this study will be devoted to studying the formative characteristics of Arabic calligraphy and monitoring the extent of their influence on the design of interior spaces and architectural elements of mosques from different eras and architectural schools in Islam. (Alashari, 2021)

Accordingly, the problem of this study can be summarized in two main points:

First: Arabic calligraphy has an artistic role that goes beyond the aspect of decoration and aesthetically improving interior spaces and moves to the role of influencing the shape and layout of elements and spaces in Islamic architecture.

Second: The majority of studies related to Islamic art and architecture are mostly historical and not analytical, and the design characteristics of Arabic calligraphy and their relationship to Islamic interior design have not been given sufficient study and research, which is why this study was found.

1.2 Questions of the Research:

The author makes assumptions about the relationship between the Islamic interior space and the formations of Arabic calligraphy, which is the main issue in this study that the author needs to defend. For further clarification, we can ask the questions:

1. What are the design characteristics of Arabic calligraphy decoration?
2. How much do the Arabic calligraphy formations and the interior layouts of Islamic architecture resemble one another?
3. Does Arabic calligraphy actually have an impact on Islamic architecture, or does Islamic architecture have an impact on Arabic calligraphy, or do they develop together and exchange influence?

1.3 Objectives of the Research:

A set of objectives was created based on the questions and research problem mentioned above, and they are as follows:

- A. Identifying the fundamental elements of Arabic calligraphy and how they are used in Islamic interior design.
- B. Showing how Islamic interior design and Arabic calligraphy have a complementary relationship in terms of shape.
- C. Demonstrating the decorative and aesthetic function of Arabic calligraphy, for which it was renowned throughout the years and successive Islamic empires and kingdoms, as well as its historical influence on Islamic interior design.

1.4 Limits of the Research:

The subject of this research deals with the decorative formations and design characteristics of Arabic calligraphy and their compatibility with the main features of the interior spaces in Islamic architecture of different styles and eras. The historical path of study includes all Islamic architectural styles from the Umayyad era to the Ottoman era.

1.5 Hypothesis of the Research:

Through this study, the researcher assumes that the various types of Islamic arts coincided at their inception, and were influenced by each other during their development in many historical stages. One of the most important arts in all successive Islamic civilizations is Arabic calligraphy, because of its great influence on the form and construction of interior design in Islamic architecture.

Therefore, the hypothesis of this study, that the researcher adopted and wishes to prove, is that the design characteristics of Arabic calligraphy have a formative effect on Islamic architecture and interior design. Many interior spaces and Islamic architectural elements resemble in their form and composition the Arabic calligraphy that calligraphers are creative in designing.

1.6 Methodology of the Research:

In this study, the descriptive approach will be used to analyze and explain the phenomenon of the relationship between “Arabic calligraphy and its design characteristics with the formations of interior space in Islamic architecture”, through a quantitative method to estimate the extent of similarity or influence in form and design. (Al-Fatli, 2014)

This will take place through the following stages:

1. Identify the design characteristics of Arabic calligraphy that were mentioned on the "Baianat" website and provide an example of each of them from the same website for explanation and clarification. (<https://www.baianat.com>)
2. Comparing each design characteristic of Arabic calligraphy with a case of space design or architectural elements with random samples from various schools or styles of Islamic architecture to prove the research hypothesis.
3. Discussing and anticipating the future of the relationship between Arabic calligraphy and Islamic architecture.
4. Coming up with conclusion, outcomes and recommendations.

2. The Design Characteristics of Arabic Calligraphy and The Extent of Their Influence on Islamic Interior Design

If writing is the mark left by the pen on paper, then calligraphy refers to the Arabic calligraphy that Muslims invented and refined, which includes many artistic drawing techniques. Arabic calligraphy, as a type of fine art, also reflects strong artistic qualities as a distinct kind of art. It has always attracted artists because of its versatility, and this remains true today. (Alashari, 2021) In this regard, Al-Qalqashandi says in his book “Subh al-A’sha”: “Calligraphy is what you know from the images of single letters, their positions, and how to put them in a script. (Al-Kurdi, 1939)

Arabic calligraphy has unique design characteristics that set it apart from other writing styles, including extroversion, simplicity, and flexibility in changing their forms. The fact that Arabic letters are connected further distinguishes them, allowing for a variety of geometric shapes to be achieved. These design characteristics include regression, extension, interlacing, angulation, rotation, and overlap, all of which are governed by calligraphers' rules and evolved over time until they took on their current forms. Arabic calligraphy, then, is the skill of drawing Arabic characters in a form that is attractive and exhibits consistency, congruence, flow, and integration. (Mansour, 2020) Arabic calligraphy, then, is the skill of drawing Arabic characters in a form that is attractive and exhibits consistency, congruence, flow, and integration. The Abbasid Caliph al- Ma’mun says: “If the foreign kings bragged to us with their likes, we would have bragged about them with our types of script, which are read everywhere, translated by every tongue, and found in every time.” (Khalaf, 2022)

Abd al-Rahim Ghalib defined Arabic calligraphy by saying: "One of the fine arts that transcends its role as a means of transmitting information to become an integrated goal,

spiritually, aesthetic and abstraction of the concept, and it is originally prepared - both in meaning and composition - to perform these tasks and occupy those places, due to the sanctity surrounding it, and what its underlining and twisting included in terms of rhythmic movement and balanced composition harmonious" (Ghaleb, 1988). Arabic calligraphy is consequently considered a great art, and because to its attributes, it is easy to transmit its movement and mass. This produces a line of text that is light in mass and has an autonomous brightness that allows it to achieve a visual and psychological feeling as well as a gorgeous rhythm. (AL-Karablieh, 2020).

The Arabic calligraphy, which the calligrapher used as a decorative element developed by his creative imagination, was a manifestation of his brilliance and success. The flexibility that Arabic letters possess makes them capable of expanding, sliding, merging and twisting, giving them a distinctive artistic aspect that helped the calligrapher greatly and made his artistic works able to cross time and civilizations. Accordingly, the calligrapher's job has evolved into producing highly imaginative and artistic models of Arabic calligraphy, based on the principle of worshipping God through his calligraphic panels, where he engraves Quranic verses in a way that appears as a form of worship. (Al-Jubouri, 2005)

The importance of Arabic calligraphy as a decorative and aesthetic element that contributed to improving Islamic interior design has increased throughout successive Islamic eras due to its flexibility and a number of its formative qualities. (Shiloah et al., 2023) On the "Baianat" website, a number of design characteristics of Arabic calligraphy have been registered, which will be reviewed in the next section of this study in order to link them to historical samples of Islamic architecture and its interior spaces to show the influential architectural qualities possessed by Arabic calligraphy, which the researcher believes influenced, directly or indirectly, the formation of many elements of Islamic architecture throughout history. (<https://www.baianat.com>)

2.1 The First Design Characteristic: The Vertical Extension of the Arabic Letters

It is the lengthening of the letters above the line with the opportunity to regulate their measurement, such as Laam (ل), Alif (ا), standings of Za (ظ) and Ta (ط), and Laam Alif (لا), and with this design characteristic the length and shortness of the letter can be regulated, giving us a sense of mounting and growing in the designated shape or space. To illustrate this idea, we can notice the lengthening of the letters Alif and Laam in the following figure. Because of this wonderful design characteristic, Muslim designers had the creative freedom to create Arabic calligraphy compositions that were suitable for decorating extended and expansive spaces.

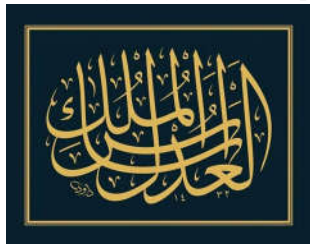


Figure (2-1) Vertical Extension of the Letters
(www.baianat.com)

The phenomenon of vertical extension of the letters Alif and Laam is repeated in many paintings and ornamentations in Arabic calligraphy, as in the previous figure. What draws attention in this particular case is the great similarity with the dense repetition of graceful columns that build the interior spaces of major mosques in Islamic capitals and major cities. From a decorative standpoint, the extension of the letters Alif and Laam may determine the dimensions of the decorative panels or the place allocated for the ornamentation space on the walls or ceiling of the mosque. From the perspective of

planning the interior space, the shape and dimensions of the interior space of the mosque are determined by the size of the graceful columns and their vertical extension, as the arches grow over the tops of the columns and expand to support the ceiling of the prayer hall and increase its upper space, which is reflected geometrically in the shape of the space at the ground level. What can be noticed here is that the arches that connect the tops of the columns are very similar to the connections of letters that connect them to make words, but in reverse, meaning that the columns have come to take the place of letters in words. The following figure is an interior perspective from inside the monumental prayer hall of the Great Mosque of Damascus, which was completed in 714. Two parallel lines of columns and arches divided the prayer hall into three adjacent galleries, serving as an illustrative example of how columns define the boundaries of the interior galleries of the mosque and the internal dimensions of the prayer hall at ground level. (Al-Mughrabi, 2022)



Figure (2-2) The Great Prayer Hall in the Mosque of Damascus (www.islamicarchitecture.com)

2.2 The Second Design Characteristic: Arabic Letters' Connectivity and Horizontal Extension

The extension of the horizontal parts of the letters, such as the letters Sein (س), Saad (ص), Yaa (ي), and Kaf (ك), give the shape of the letters a sense of stability and balance. This feature is particularly popular with Arabic calligraphy. In addition, extension appears frequently in the calligraphy line that joins letters together, and is an essential characteristic of Arabic calligraphy with horizontal connections. In the following figure, the calligraphy line connecting the letters Kaf (ك) and Taa (ت) in the word (توكلت) in the calligraphic ornament drawn within a rectangular geometric frame that extends horizontally shows letters' connectivity and horizontal extension. In addition, the majority of Arabic letters and words are written continuously and coherently.



Figure (2-3) Connectivity and Horizontal Extension of the Letters (www.baianat.com)

The following figure is a wonderful example that highlights the skill of the calligrapher through his exploitation of the flexibility of the Arabic calligraphy and its horizontal extension, so that the calligrapher not only connected the letters to each other, but was able to connect almost all the words contained in the supplication to each other.

(رب يسر ولا تعسر رب تمم بالخير وبه ثقتي)



Figure (2-4) Connectivity and Horizontal Extension of the Letters (www.baianat.com)

There is a striking resemblance between Islamic architecture and Arabic calligraphy when it comes to the horizontal extension of letters and sentences. This is particularly

true considering the interconnectedness of Arabic calligraphy, which is seen as words and phrases that extend horizontally. The architecture of the great mosques is known for its horizontal extension in the building, which is considered an original element in formulating the interior and exterior spaces to accommodate significant amounts of worshipers at the same time during congregational prayers, particularly Friday prayer. For this reason, most prayer hall designs in the Islamic countries were rectangularly, extended and parallel to the qibla wall.

The Great Mosque of Kairouan, built in 670, is considered one of the largest mosques in the Maghreb and North Africa. It is a prominent example of the large horizontal extension of interior spaces in Islamic architecture. The total area of the mosque is approximately 9,700 square meters, and its length measures approximately 126 meters and its width measures 77 meters. Due to the numerous columns, the prayer hall is spacious and has a vast interior space. A sizable courtyard is also present and is enclosed by passageways. (Finegan, 1965)

The following figure shows the large horizontal extension of the Kairouan mosque, which is supported by a huge number of columns and pillars in a way that appears to be composed of texts and architectural vocabulary whose letters are columns connected by semicircular arches in a way that resembles the connection of letters and words in Arabic calligraphy.



Figure (2-5) The Great Mosque of Kairouan, Elevation (www.islamicarchitecture.com)

2.3 The Third Design Characteristic: Rotate Arabic Letters

When the letter is rotated, it may often take the form of a semi-circle, either convex or concave, as in the letters Ain (ع), Ghin (غ), Jim (ج), Ha (ح), Kha (خ), Sin (س), Shin (ش), Saad (ص), Dhaad (ض) and Raa (ر). This leads to showing the dynamic nature of the Arabic letter in addition to the diversity of the configurations of movement that make up its composition. The rotation of the letters through the letters Ghin (غ) and Raa (ر) is demonstrated in the following figure. In addition, the geometry of the entire supplication text was semicircular in shape, symmetrical, with an apex resembling a pointed architectural arch within a rectangular frame.



Figure (2-6) Rotate Letters (www.baianat.com)

The best examples of circular or semicircular shapes in Islamic architecture include arches, domes, and half-domes. The dome, in its circular shape, represents the unity of the Islamic nation, the centralization of government, and the authority of the Sultan. Ottoman architecture is regarded as one of the most Islamic architectural styles in Islamic history to have employed domes to enclose the interior space and form the roof of mosques. (Al-Mughrabi et al., 2021) The Sultan Ahmed Mosque in Istanbul, which was constructed in 1616, has a stunning domed design consisting of a central dome and four half-domes, as seen in the following figure. Additionally, it draws attention to the ornamental concave

Arabic calligraphy at the inner peaks of the domes and half-domes, which appear to be tastefully covering the interior space of the prayer hall. (Rüstem, 2016)



Figure (2-7) Sultan Ahmed Mosque, Interior (www.islamicarchitecture.com)

2.4 The Fourth Design Characteristic: Elasticity of the Arabic Letters

The ability of some letters, like Ra (ر), Haa (ح), Waw (و), Noon (ن), and others, to grow in size and length begins with the curvature, rotation, or curvature in the body of the letter. This can cause overemphasis in the loftiness and drop of certain parts of the letter. Elasticity can also mean elongating and levelling the letters to give them a more flexible and gentle manifestation. There are many calligraphic decorations that demonstrate the skill of calligraphers in exploiting this feature, which in turn demonstrates the great formative possibilities of Arabic calligraphy and its ability to bring out the organized aesthetic unity in design. The following figure demonstrates this concept by enlarging the letter Haa (ح) in relation to the text's surrounding letters, which appeared to be contained within it. Additionally, the word "Allah" (الله) is now entirely encircled by the letter Meem (م), which is located in the figure's center.

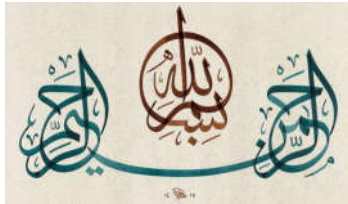


Figure (2-8) Elasticity of the Letters (www.baianat.com)

In order to accentuate the ascendancy of one architectural component over the others, such as the dome due to its representative meaning, or to emphasize a specific direction, such as the direction of the qibla due to its religious significance, Muslim architects sometimes exaggerate the scale, measurement, or location of some spatial or structural elements. A very important example we take from the Umayyad Mosque in Damascus, the qibla portico located in the center of the building seemed very prominent and visible internally and externally, it is higher than the ceilings of the side arcades of the mosque and was designed in an opposing direction to indicate Qiblah. The architect also added a single prominent dome to the mosque's high top over the qibla portico to symbolize the Umayyad central and royal rule of the Islamic world. (Flood, 2021) The researcher may notice how the concept of the higher qibla portico and the upper central dome in the center of the prayer hall in the Umayyad Mosque is extremely similar to the word basmalah and the letter meem in previous figure.



Figure (2-9) The Umayyad Mosque, Courtyard (www.islamicarchitecture.com)

This design feature also resembles the central configuration The Great Mosque of Kairouan, extending horizontally, through which the dome protrudes upwards from the flat roof of the mosque. Figure (2-5)

In many cases, the Muslim architect deliberately emphasized some of the important elements in the interior design of the mosque, such as the minber and the mihrab, by exaggerating the size and selecting precious decorative materials. The following figure shows the amount of attention the architect gave to the interior façade of the Iwan of the Qibla, which includes the minber and the mihrab from Al-Zahir Barquq Mosque in Cairo, built in the Mamluk Islamic style in 1386. (Behrens, 2007).



*Figure (2-10) Al-Zahir Barquq Mosque, Interior
(www.islamicarchitecture.com)*

2.5 The Fifth Design Characteristic: Compressibility of the Arabic Letters

Compression of letters and words involves pressing their individual pieces together, which is the opposite of stretching or straightening. As a result, the size of the letters shrinks and the words accumulate in a certain direction, vertical, horizontal, central, or any other shape, which is sometimes useful in the areas of expressive formal letters.

To illustrate this idea, the calligraphy panels in the following figure show two writings constrained inside a vertical rectangular area of space by causing letters to converge and words to overlap. In the first calligraphy panel, the words were gathered in the form of a semi-arc raised above the extensions of the vertical letters, and in the second calligraphy panel, the words were gathered to form a base on which the extensions of the letters stood vertically.

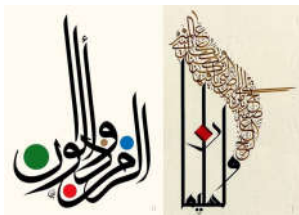


Figure (2-11) Compressibility of the Letters (www.baiانات.com)

Compressibility and closeness of letters and words to a degree that may make them overlapping, very similar to the way in which interior spaces are constructed in Islamic architecture, which is rich in multiple types of ornamentations and interior architectural elements. The most exemplary example is the interior space of the Selimiye Mosque in Edirne, built in 1575, shown in the figure below. It is rich in structural and decorative elements, the most notable of which is the Arabic calligraphy ornamentations in the center of the enormous majestic dome, where Surat Al-Ikhlās - the verse urging belief in the One God - is written in a central pattern. The museum's dome, with its large number of windows arranged next to each other, sits above the magnificent interlocking muqarnas and eight arches that connect the massive pillars standing around the prayer hall. This is in addition to the minber, mihrab and the qibla wall, which are richly decorated with Arabic calligraphy and geometrical patterns. It is also worth noting that the interior space of great mosques is also rich with believers, especially during congregational prayers, where a large number of worshippers gather for Friday prayers, Tarawih prayers, and Eid prayers. (Necipoglu, 2005)



*Figure (2-12) Selimiye Mosque, Interior
(www.islamicarchitecture.com)*

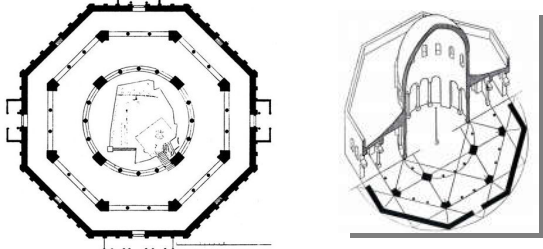
2.6 The Sixth Design Characteristic: Angularity of the Arabic Letters

The ability of letters to be written or drawn in rectangular, square, circular, or other geometric shapes is known as angularity or squareness, and it is sometimes thought of as a quality of Kufic script. This is done by placing letters and words within a square, hexagonal, or octagonal geometric shape, or combining more than one geometric shape, as shown in the figure below.



Figure (2-13) Angularity of the Letters (www.baianat.com)

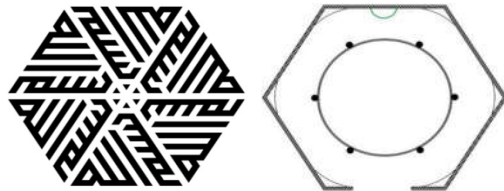
The best example here is the oldest surviving piece of Islamic architecture in the world is the Dome of the Rock, built in 692. It is exceptional in Islamic architecture because of its octagonal spatial design that emphasizes the organic relationship between Islamic architecture and geometric planning. This design trend is shared by Islamic architecture and Arabic calligraphy, both of which have geometric roots in form and layout. The building's octagonal interior space follows the same polygonal exterior architectural form (George, 2010).



*Figure (2-14) The Dome of the Rock, Plan & Isometric Section
(www.islamicarchitecture.com)*

Polygonal geometric shapes, hexagonal and octagonal, were exploited in the design of various Arabic calligraphy decorations, especially through Kufic calligraphy decorations. The following figure shows the word “In the Name of God” repeated six times within a hexagonal design. The Sayyida Umm Yahya Mosque in Amman, Jordan, represents an architectural case that exactly matches in its hexagonal plan the geometry of the calligraphic ornamentation. It is a newly constructed social and religious complex that includes an elegant domed mosque designed according to a hexagonal scheme.

(www.assarai.com)



*Figure (2-15) Angularity of the Letters
and Hexagon Mosque Design
(www.islamicart.com)*

2.7 The Seventh Design Characteristic: Overlapping and Interlacing Arabic Letters

One of the distinctive features of Arabic calligraphy is overlapping or interlacing,

notably in vertical letters like Alif (ا) and Laam (ل). These letters become longer and entwine with one another, forming a lovely formal conversation that approaches ornamentation. There are several different types of interlacing, including complexity, connectivity, and braiding, in which the letters come together to form a braid.

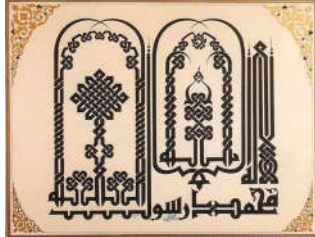


Figure (2-16) Angularity of the Letters (www.baianat.com)

A notable illustration of this feature can be seen in the accompanying figure, which shows the curving braids of the letters Alif and Laam on the walls of the Alhambra Palace in Granada, Spain, which is considered one of the most well-known examples of Islamic architecture and was constructed between 1238 and 1273. The calligraphers used lines that crossed and entwined to make beautiful ornamentation (Arnold, 2017).



Figure (2-17) Overlapping and Interlacing Letters (www.islamicart.com)

The crossed-arches, which were common in Andalusian architecture as a feature of construction and adorning the interior space, are the closest architectural forms to the interlacing Letters of Arabic calligraphy. The formations surrounding the mihrab of the Cordoba Mosque, constructed between 785 and 988, are one of the best examples of the close connection between Arabic calligraphic arrangements and Islamic interior design. (Rahman, 2015) As noticed in the following figure, crossing arches intertwine and overlap with horseshoe arches as if they were drawn by a calligrapher, not an architect.

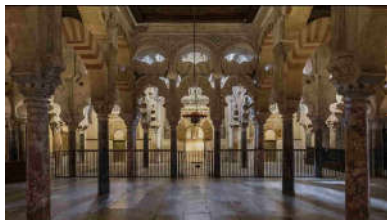


Figure (2-18) Cordoba Mosque, Interior (www.islamicarchitecture.com)

2.8 The Eighth Design Characteristic: The Multiplicity of The Form of One Arabic Letter

The ability to create numerous distinct forms of each letter in Arabic calligraphy, as well as variations in thickness, ductility, and size, may be what gives the script's letters their enormous variety and richness. This characteristic is illustrated in the following figure by the various ways the letter Jeem (ج) appears in various words. When it is not connected to the letter that comes before it, as in the first word (جص), the letter appears semicircular. When it is connected to the letter that comes before it, as in the second word (مجد), the letter appears circular. In addition, the shape of the letter Haa (ح) differs

according to the place of its appearance in the word. It is short at the beginning of the word, as in the word (حاجب), and rounded and inclined at the end of the word, as in the word (فرح).



Figure (2-19) The Multiplicity of the Form of One Letter
(www.baianat.com)

The minaret serves as an apt illustration here; It has been recognized as a necessary and important element in mosque architecture since the Umayyad period in the seventh and eighth centuries AD. It is the most noticeable landmark that conveys the site's religious uniqueness. It also serves as a pointer to the mosque, the starting point for the call to prayer that alerts people to the hour of prayer. However, the scale and architecture differed from mosque to mosque and country to country. It had a vast scale and a square shape during the Umayyad era, and subsequently, during the Ottoman era, it took on a precise circular shape. (Khalili, 2005)

From the following, it can be seen that the minaret's architectural design resembles the letter Alif (ا) due to its elegant proportions and vertical extension. The next illustration shows a collection of traditional minarets in many lovely shapes and with a considerable vertical extension. Over time, the minaret took on more attractive and renewable appearances.

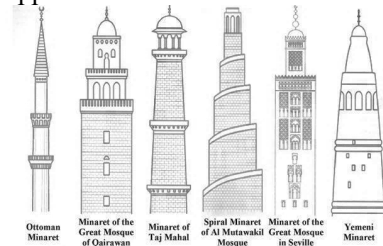


Figure (2-20) Different Styles of Minarets
(www.islamicarchitecture.com)

3. Arabic Calligraphy in Harmony with Contemporary Islamic Art and Architecture

The ornamentations of Arabic calligraphy are well-thought-out one of the most essential elements of Islamic architecture since the appearance of Islamic arts in the Umayyad era, because they can add significant spiritual and aesthetic standards to the interior space in Islamic architecture, especially mosque architecture. This study has clarified a specific set of design characteristics of Arabic calligraphy and examined how they relate to some historical models of Islamic architecture, but we can now explore something about the harmonic relationship of Arabic calligraphy to contemporary artistic and architectural products.

3.1 Arabic Calligraphy in Harmony with Contemporary Islamic Art

The forms of letters in their position and how to install them in writing are recognized through the science of Arabic calligraphy. It is a talent and an art form that involves controlling the movement of the fingertips with a pen while according to predetermined guidelines. Writing single or compound Arabic letters in Arabic calligraphy is known as adhering to the aesthetic guidelines established by the great masters of the art. "The calligraphy is spiritual geometry that appeared with a physical machine," remarked Yaqut bin Abdullah Al-Mawsili. "If you improve your pen, you will improve your handwriting,

and if you neglect your pen, you will neglect your handwriting." (Al-Jumaili, 2010)

Square Kufic calligraphy is called geometric calligraphy, one of the types of Kufic calligraphy. It consists of geometric lines of the same width or thickness, with the same spacing between letters in the written text, and the rules for writing it have a lot of flexibility and simplicity compared to the rest of the other Kufic scripts. It is notably used for interior and exterior decoration in this time, especially in contemporary mosque architecture. (Imam, 1991)

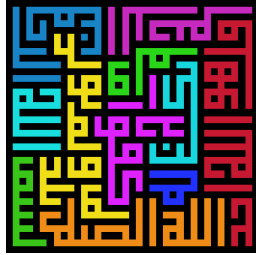


Figure (3-1) Surat Al-Ikhlâs is written in square Kufic script (www.islamicart.com)

Calligraphers never stop being creative, they are always the makers of beauty. From the following figure it is noted that some forms of contemporary square Kufic calligraphy may have architectural features that mimic the shapes of domes, minarets, and mosque facades internally and externally. This is another technical challenge for the creativity of designers and architects, and perhaps they will be able to imitate the designs of calligraphers, or perhaps this will motivate them to produce architectural works in the future that are closer to the design principles of calligraphers, or inspired by the arts of Arabic calligraphy.

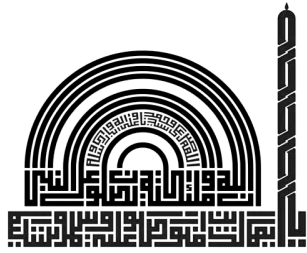


Figure (3-2) Arabic Calligraphy in an Architectural Configuration (www.islamicart.com)

The Department of Interior Design at the University of Petra in Jordan presented a promising academic experience during one of the study laboratories, where a group of students created contemporary, abstract, two-dimensional decorative forms by analyzing some drawings from the square Kufic script, and then reassembling them and transforming them into simple, contemporary three-dimensional architectural forms. The results of this experiment demonstrated the design capabilities of Arabic calligraphy that could make its future bright and more intertwined with the arts and formations of architecture and interior design. (Hussein, 2016)

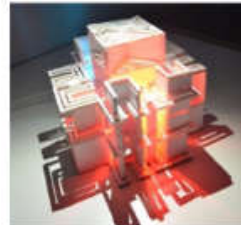
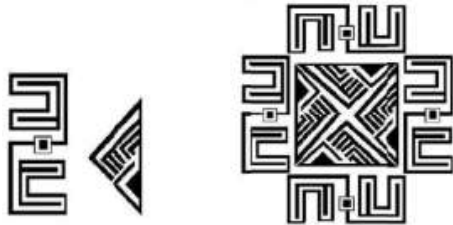


Figure (3-3) Design Capabilities of Arabic Letters (From Hussein)

3.2 Arabic Calligraphy in Harmony with Contemporary Islamic Architecture

Despite the overwhelming desire of some architects to create modern and contemporary designs, traditional and local values create a sense of sustainability that

aids the modern understanding of mosque architecture. With their strong and dominant iconography built on tradition, mosque architecture is one of the most conservative building styles in Muslim society.

Recently, some distinctive models of mosques in Islamic countries have been built in a modern architectural style that is characterized by simplicity and keeps pace with the spirit of the times. It shows a great similarity to the art of square Kufic script with its straight and parallel lines, which seems to have had a great influence on the design of the facades of modern mosques in particular. A distinctive example here is the Al-Hamshari Mosque, built in 2012 in the city of Amman - Jordan, where decorations in square Kufic script are drawn on the back of the mihrab in a very distinctive place in the middle of the front facade of the mosque. The square Kufic script decorations also emphasized the rectangular elongated geometric shape of the minaret extending through three sides. The square Kufic script was also used to decorate the rectangular interior space of the prayer hall through square panels and decorative bands. (Al-Mughrabi et al., 2021)



Figure (3-4) Al-Hamshari Mosque, Exterior Perspective
(<https://www.archdaily.com>)

Another distinctive example of modern mosque architecture is the Yasamkent Mosque, designed by architect Ali Osman Ozturk and completed in 2015 in Ankara, Turkey. Yasamkent Mosque represents a continuity between traditional and modern values. It was built corresponding to a plan that combines a prayer hall with a traditional courtyard behind it, according to an arrangement that mimics the plans of classic Ottoman mosques. However, it has a contemporary design that appears through the simple and flat architectural parallel facades that closely resemble the design of square Kufic calligraphy decorations. Even the glass facades on the front of the mosque are shaded by metal panels with decorations inspired by the square Kufic script. (<https://www.archdaily.com>)



Figure (3-5) Yasamkent Mosque, Exterior Perspective (by Fethi Magara)

The minaret of the Yasmakent Mosque also emphasizes the modernity and simplicity of the architectural design of the mosque through the linear vertical arrangement in its design, which is inspired by the square Kufic script style. The prominent lines that adorn the surfaces of the minaret are an abstraction of the Basmala ornamentation from the square Kufic script designed by the calligrapher Davut Bektash, which confirms that the square Kufic script was of very great importance in the mind of the architect when designing the mosque building, so that in its final form it looked like a painting from the Kufic script. (<https://atarim.com.tr>)

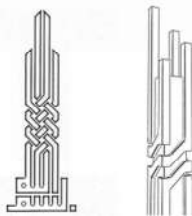


Figure (3-6) Yasamkent Mosque, Abstract Kufic Expression of Minaret (<https://atarim.com.tr>)

The interior of the prayer hall is a clear reflection of the flat walls and straight lines of the mosque's exterior. It is characterized by an abundance of square Kufic script decorations in the form of panels and decorative bands. The decorations of the metal panels, inspired by the square Kufic script, are reflected during the day on the floor of the



mosque, filling the interior space with more beauty and vitality.

Figure (3-7) Yasamkent Mosque, Interior Perspective (by Fethi Magara)

4. Discussion, Outcomes, and Recommendations

The Discussion, Outcomes and Recommendations reached by this study are explained as follows:

4.1 Discussion

Through this study, which deals with interior aesthetics from a religious-architectural perspective, the author developed a theory about the close constructive relationship between the formations and characteristics of Arabic calligraphy and the methods of planning interior spaces in Islamic architecture. To achieve this goal, the researcher chose some architectural models from Islamic history to show the extent of compatibility with specific distinctive features of Arabic calligraphy, in an attempt to support his point of view that sees the similarity between Arabic calligraphy and Islamic interior architecture.

Based on the above, it is clear that the researcher believes that the design characteristics of Arabic calligraphy decorations had a significant impact on the development of the interior spaces of Islamic architecture. But here the following question arises: Did the formations of Arabic calligraphy begin first, then were followed by the formations of the interior space and its components in Islamic architecture, or vice versa? In fact, it is not possible to give a definite answer to this question. The author tried to justify this formal relationship, which dates back hundreds of years, by pointing out the striking similarities between the formations of Arabic calligraphy and the formations of Islamic interior design. To be more precise, the author tried to link each of the design characteristics of Arabic calligraphy to the elements of Islamic interior design. By comparing the formations of Islamic interior design with the decorations of Arabic calligraphy, it was revealed in the second part of the study that there is a striking similarity between them. As a result, some architectural elements appear to have been designed by a calligrapher rather than an architect, which may indicate that the beginning was simultaneous and one did not precede the other. There is no doubt that the fields of art and design that are subject to the same time period or are close in time affect each other.

4.2 Outcomes

Now that the previous chapters of the study have been completed, the following results can be reached:

First: The distinctive design characteristics of Arabic calligraphy made it fully compatible with the formations and components of Islamic interior design from all historical Islamic architectural schools and styles. Even modern or contemporary mosques cannot be devoid of Arabic calligraphy or being influenced by Arabic calligraphy, whether in terms of form or substance. An example of this is the intersecting arches in the prayer hall of the Cordoba Mosque, which were designed in great detail with intersecting and overlapping letters in Arabic calligraphy, such as the letters Alif and Lam. (See Figure 2-17)

Second: There is an undeniable formal and aesthetic harmony between the elements of Islamic architecture and Arabic calligraphy. This is due to the religious value of Arabic calligraphy and its formative flexibility, and as we indicated in the second part of this study, many of the structural and architectural components of Islamic architecture and interior design may have been inspired by the calligraphic formations or the shapes of Arabic letters. Arabic calligraphy, with its flat nature, is compatible with all forms of mosques, even with the domed style of Ottoman mosques, as we saw in the Sultan Ahmed Mosque in Istanbul, where the holy verses took the center of the dome as a center around which they rotated and became curved like the arch of the dome. (See Figure 2-7)

Third: Even if Islamic architecture contains beautiful and proportional historical architectural elements such as domes, minarets, mihrabs, and minbers, it may lose some of its Islamic identity if it lacks Arabic calligraphy in its interior design. As a result, the relationship between Arabic calligraphy and Islamic interior design will remain intact even as new architectural trends emerge over time. The researcher believes that some contemporary mosques, newly built in some famous cities around the world with international styles, may lose their identity if they are devoid of Arabic calligraphy. (See Figure 3-6)

Fourth: Arabic calligraphy has a meaningful religious characteristic that makes interior spatial elements able to convey the meanings of texts as if they were speaking, or perhaps these rigid architectural elements become able to get rid of the static state in order to become lively and more interactive with believers of all races and origins, as they can read the Arabic language during the five daily prayers. The phrase “The Two Testimonies” on the front façade of Al-Hamshari Mosque made the facade lively and pronounced in words that all Muslims in the world understand. (See Figure 3-3)

Fifth: The calligrapher strives to produce works of art that have aesthetic worth, allowing viewers to participate and hone their aesthetic sense. Arabic calligraphy has been connected with aesthetic connotations on the philosophical level. People enjoy the beauty of calligraphic forms and decorations, and also appreciate the spiritual significance of the scripts, which are frequently Quranic verses, Prophetic hadiths, or supplications. The majestic dome of the Selimiye Mosque, rich with floral decorations and magnificent windows that flood the interior space with sunlight, was not devoid of Arabic calligraphy decorations, especially at the top of the dome, where Surat Al-Ikhlâs was written in a central style urging belief in one God. (See Figure 2-12)

4.3 Recommendations

First: Given the absence of calligraphy and texts from religious structures in the arts of ancient and modern world civilizations, it is of paramount importance to preserve the presence of Arabic calligraphy in contemporary Islamic interior design. It is a continuation of the distinctive decorative program that has distinguished Islamic architecture throughout the ages, especially in the architecture of mosques as an important religious building.

Second: Using Arabic calligraphy to embellish and organize a building's interior space, particularly a mosque, adds significant architectural and expressive values. As a result, we must persistently seek to inform upcoming calligraphers and architects of the significance of Arabic calligraphy and the significance it contributes to Islamic interior design.

Third: It is known that calligraphers often work with paper and books rather than writing on walls and ceilings. Therefore, contemporary calligraphers must be given the opportunity to receive appropriate training so that Arabic calligraphy remains a major decorative feature that complements the many aspects of Islamic interior design.

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